

PUBLIC HEALTH DEPARTMENT,  
GUILDHALL, CAMBRIDGE.

February 26th, 1930.



*To the Chairman and Members of the Local Education  
Authority.*

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have the honour to submit for your consideration my Annual Report upon the School Medical Service for the year 1929. There are few striking comparisons when compared with immediately preceding years, but sufficient time has now elapsed to justify comparison with the early years of the work. The work of inspection has been carried on by Dr. Gurney since 1911, so that so far as a purely personal standard is concerned, the comparison afforded by figures can be checked by personal experience and opinion. Compared with those early years the change in the improvement of the children is remarkable, and as regards cleanliness and general appearance is a complete revolution. At all ages examined the children are taller and heavier, of better physique, freer from defects, better clothed and infinitely cleaner than their predecessors of twenty years ago. A poorly fed or poorly clad or really dirty child is exceptional. Skin diseases, especially impetigo and ringworm are greatly reduced, ringworm indeed being for quite long periods entirely absent. There were no cases of this troublesome disease in the schools at the end of the year under review.

There is almost as complete a change in the attitude of Parents to medical inspection. In the early years of the work objections to inspection arose in about 20 per cent. of the cases, now they are practically unknown. At first, few parents accepted the invitation to accompany their children, now over 70 per cent. of the children have their Mothers with them. This is almost as large a number as can conveniently leave their homes for this purpose.

The evidence for these statements exists in the series of reports which has been presented to the Committee. The careful investigation of these reports is, however, a task which is perhaps not particularly congenial to Members of the Committee, and it is for this reason that I have gone over them and now give the general conclusions to which they point. At the very least it can be said that there is distinct evidence of the Committee's work having borne good fruit, and every encouragement for the continuance of your efforts for the school children of Cambridge.

I am,

Your obedient Servant,

ANDREW J. LAIRD,

*School Medical Officer.*

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## Report of the School Medical Officer.

FOR THE YEAR 1929.

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Population of the Borough (estimated) ... ..	60860
Area of the Borough... ..	5457 acres
Number of Elementary Schools ... ..	19
Number of Departments ... ..	37
Average number of Children on the Registers ...	6823
Average Attendance ... ..	6065

The average number of children on the school registers and the average number attending continues to decline each year as is shown by the following figures :—

	1921	1922	1923	1924	1925	1926	1927	1928	1929
Average number of children on registers	7845	7782	7412	7241	7232	7126	7060	6924	6823
Average number of children in attendance ... ..	7073	6791	6672	6509	6260	6388	6273	6266	6065

### Staff.—

School Medical Officer ... ..	Andw. J. LAIRD, M.D., C.M., D.P.H.
Assistant School Medical Officer... ..	A. Mabel GURNEY, M.B., Ch.B., D.P.H.
Public Dental Officer ... ..	W. Baird GRANDISON, L.D.S., R.C.S.
Assistant Public Dental Officer... ..	†Mr. W. H. FOY, L.D.S. (Guy's).
Bacteriologist ... ..	W. H. HARVEY, M.D.
School Nurses ... ..	Miss M. M. W. STEVENS. Miss F. A. NICHOLLS.
Dental Attendants ... ..	†Miss M. A. BENNETT. Mrs. PRICE. Miss E. IMPEY. *Miss D. JENKINS.
Clerk ... ..	Miss G. A. M. WALLIS,

together with the part-time services of the Chief Clerk in the Public Health Department.

† Resigned October 31st, 1929.

† „ April 30th, 1929.

\* Appointed May 1st, 1929.





The following Table shows the number of routine inspections carried out at the various schools :—

	Entrants.		Intermediates		Leavers.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Barnwell Abbey ...	8	10	19	17	—	—
Brunswick Council ...	27	31	43	34	24	41
Central ...	—	—	—	—	87	85
East Road ...	17	17	—	—	54	43
King Street ...	10	5	4	7	—	—
Milton Road ...	41	31	59	42	25	20
Morley Memorial ...	21	18	27	9	9	8
Newnham Croft ...	11	11	7	8	—	—
New Street ...	17	26	15	18	8	14
Park Street ...	9	7	—	29	—	—
Richmond Road ...	14	8	4	2	—	—
Romsey Council ...	—	1	48	33	22	20
St. Andrew's ...	23	26	28	28	14	7
St. Barnabas ...	22	23	11	22	—	—
St. Giles' ...	10	7	8	11	—	—
St. Luke's ...	21	16	34	30	20	35
St. Matthew's... ..	8	25	50	52	—	—
St. Paul's ...	12	16	18	20	—	—
St. Philip's ...	66	60	41	41	18	25
Union Road R.C. ...	2	6	9	14	4	7
	339	344	425	417	285	305
	683		842		590	

The number at routine inspections represents 34 per cent. of the number of children in average attendance. The proportion is the same as in 1928.

*Co-operation of Parents.*—The proportion of mothers who attend with their children at the inspections continues to increase, and was 74·8 per cent. in 1929, as compared with 73·3 per cent. in 1928. The proportion varied from 46 per cent. at the Central Boys' School to 100 per cent. at the Brunswick Infants' School.

Not only is this improvement in the attendance of Mothers evidence of interest in the welfare of their children, but it affords one of the most suitable opportunities for informal talks upon health and upon the treatment of any defects which are discovered during the inspection. It is also conducive to the creation of a better understanding of the work of school medical inspection, and promotes good feeling and co-operation between all concerned in the welfare of the children.

## REVIEW OF THE FACTS DISCLOSED BY INSPECTION.

*General Physique.*—Instead of presenting for comparison the figures for height and weight in 1929 with the immediately preceding years, I have placed alongside the 1929 record that of the early years of medical inspection, 1911 and 1912.

I have taken the two years 1911 and 1912, as it might be thought if only one year were given for some reason or other it might have been of unusual character. The figures may be left to speak for themselves. They confirm what I have pointed out in previous reports that the Cambridge elementary school child of to-day is in physique at any rate greatly the superior of the child of nearly twenty years ago.

## BOYS.

Age in Years.	No. Exam- ed in 1929.	Average Height in Inches.			Average Weight in Pounds.		
		1911	1912	1929	1911	1912	1929
5	189	40·6	40·5	42·55	38·2	38·2	40·59
8	425	46·9	46·4	48·91	50·4	47·6	56·07
12	258	55·1	54·9	55·82	73·6	72·9	79·00

## GIRLS.

Age in Years.	No. Exam- ed in 1929.	Average Height in Inches.			Average Weight in Pounds.		
		1911	1912	1929	1911	1912	1929
5	176	39·6	40·5	41·86	36·2	37·6	39·39
8	417	46·4	46·0	48·48	48·7	49·7	54·07
12	268	55·9	55·3	57·14	76·6	71·3	82·65

Judged by their state of nutrition the same improvement is shown. I give the figures for 1912, as this was the first complete year of Dr. Gurney's work. It is of course possible that the standard of the person inspecting may have unconsciously changed, but it will probably be less than the contrast between the standards of entirely different inspectors.

In 1912 the proportion noted as being above the average is nearly the same as in 1929, but 14·3 per cent. of the boys and 13·7 per cent. of the girls were *below* the average in 1912, as compared with 0·9 per cent. in 1929.

The physique of the children as judged by the Doctor, apart from measurements of height and weight, shows but slight variation during recent years. The proportion of children judged to be below the normal standard is the lowest yet recorded.

	1924	1925	1926	1927	1928	1929
Above standard %	14.6	15.8	15.2	17.8	14.8	13.9
Below standard %	2.5	1.8	2.8	1.5	1.0	0.9

#### DEFECTS FOUND AT ROUTINE INSPECTION.

The proportion of defects requiring treatment found at routine inspections (excluding cleanliness and dental diseases) was, for the whole number of children, 7.3 per cent. Among the entrants the proportion was 5.4 per cent., among the intermediates, 9.2 per cent., and among the leavers, 6.9 per cent. The proportions for England and Wales in 1928 were for infants, 20.1 per cent., for intermediates, 22.4 per cent., and for leavers, 20.5 per cent., and for the three age groups together 21 per cent. Cambridge thus had only one-third of the proportion for the whole country.

The proportion of children found to require treatment is shown in the following tables :—

#### CHILDREN FOUND AT ROUTINE INSPECTION TO REQUIRE TREATMENT.

Group.	Inspected.	No. of children found to require treatment.	Percentage of children found to require treatment.
<i>Entrants.</i>			Cambridge. England & Wales. (1928).
1923	677	33	4.8
1924	741	31	4.1
1925	858	35	4.0
1926	756	32	4.2
1927	719	43	6.0
1928	700	49	7.0
1929	683	37	5.4
<i>Intermediates.</i>			
1923	840	47	4.8
1924	698	43	6.1
1925	646	44	6.8
1926	506	42	8.3
1927	506	42	8.3
1928	841	114	13.5
1929	842	77	9.2
<i>Leavers.</i>			
1923	961	75	7.8
1924	787	68	8.6
1925	742	50	6.7
1926	697	40	5.7
1927	698	48	6.9
1928	600	64	10.6
1929	590	41	6.9



*Clothing, etc.*—It is now a most unusual thing to find a poorly clothed child at the routine inspections. Only seven could be so described out of a total of over 2000 inspected. It is not quite the same with shoes, 193 children being found whose shoes could be called bad. There is just a possibility that the children might make a better show at an inspection to which Parents are invited, but casual inspection in school throughout the year suggests that this has really very little to do with the matter, and that the inspection actually reveals the normal state of the child in this respect.

*Cleanliness.*—The very marked improvement in cleanliness of the child has frequently been commented upon, and even with the high standard now set, children with even so few as half a dozen nits being classed as not clean, the improvement is fully maintained. During 1929 the very high proportion of 91.7 per cent. of the children seen were found to be perfectly clean, the total number inspected being 4472.

The proportion found with pediculi was 3.0 per cent.; in 1928 the proportion was 4.2 per cent.

No proceedings were taken under Section 122 of the Children Act, 1908, but proceedings in Court were taken under the School Attendance Bye-Laws in 12 cases, and fines of from 2/6 to 7/6 were inflicted in 8 of these. 3 were dismissed with a caution, and 1 convicted, without penalty.

*Ringworm.*—Here also the very satisfactory condition recorded in previous Annual Reports has been maintained in 1929. Only 2 new cases occurred, 1 of the body and 1 of the scalp. Of these 1 was treated at Addenbrooke's Hospital, and 1 privately. There were no cases in existence in the schools at the end of the year.

The new cases discovered each year from 1916 were as follows :—

1916	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29
84	38	33	58	44	39	37	24	26	15	11	14	16	2

*External Eye Disease.*—Cases of Conjunctivitis and Blepharitis now usually come to the Clinic to be treated as they occur, and are not often found at the routine inspections. Through the prompt treatment given these cases do not affect many other children in school.

The conditions found were Conjunctivitis 12, Blepharitis 13, Squint 33, and various other conditions 14, making a total of 72. The total number of similar conditions in 1928 was 76, and 1927, 72.

*Defective Vision.*—The number of children found to have defective eyesight (6/12 or worse) was 202 or 14.1 per cent. of those tested. The proportion for this country as a whole was 10 per cent. in 1928.

This number includes 122 children who were already wearing spectacles.

*Enlargement of the Thyroid Gland (Goitre).*—The number of "leaver" girls who were examined for enlargement of the Thyroid Gland was 305. Only 4 of these were found to have any enlargement.



*Tonsils and Adenoids.*—The number of children recommended for treatment of tonsils and adenoids is much less than the previous year, 52 only, as compared with 79 in 1928.

142 children (6·8 per cent.) had considerably enlarged tonsils, and 196 (9·2 per cent.) had slightly enlarged tonsils. 13 also suffered from adenoids.

*Ear Disease and Deafness.*—The number of children found with defective hearing was 63, or 3·0 per cent. of those inspected. Fifteen had a purulent ear discharge (0·7 per cent.). The figures for several years are given for comparison.

	1922	1923	1924	1925	1926	1927	1928	1929
Otorrhoea	1·0	0·4	0·6	0·7	0·2	0·9	0·7	0·7
Deafness	2·3	1·6	3·1	1·9	2·0	3·4	3·4	3·0

*Diseases of the Lungs.*—Only two children presented definite signs of tuberculosis of the lungs. A number of children with doubtful indications of pulmonary disease were referred to the Tuberculosis Officer for further examination.

*Diseases of the Heart.*—Twenty-eight children presented symptoms of cardiac disease. None of the old cases have got worse. In several the condition noted has definitely disappeared while under observation.

In all cases in which there is any history suggestive of rheumatism, the house is visited and examined by the Sanitary Inspector with a view to remedying any dampness which may be found.

*Defects in Speech.*—Fifteen stammerers were found, and one other child with defective articulation of certain letters.

*Diseases of the Nervous System.*—Six cases of Chorea (St. Vitus' Dance) and one of Epilepsy were found. In addition, indications of an unstable nervous system were detected in other thirty-seven children.

*Deformities.*—No crippling deformity was found during the year. The defects noted were spinal curvature of slight degree (28 in all), and several with some evidence of former rickets mainly in the legs (tibiae) and chest.

*Other Defects.*—Under this heading are children suffering from general debility and anaemia. The number with anaemia, especially, shows a large decrease from 104 in 1928 to 69 in 1929.

*Vaccination.*—The proportion of children found with vaccination marks in 1929 was 26·6 per cent., this being 2·4 per cent. less than the previous year.

## INSPECTION CLINIC.

The Clinic is open every weekday, including Saturdays, from 9.30 a.m. until 1 p.m. The Assistant Medical Officer, two School Nurses, and a Clerk are in attendance.

The total number of children inspected at the Clinic in 1929 was 1,396, being 322 less than in 1928. The attendances in 1929 numbered 6,674, a decrease of 4,958 as compared with 1928.

The following are the figures for each quarter of the year :—

		Children.	Attendances.
1st Quarter	...	361	2249
2nd Quarter	...	361	1486
3rd Quarter	...	174	628
4th Quarter	...	500	2311
		<hr/>	<hr/>
		1396	6674
		<hr/>	<hr/>

The numbers attending in previous years were :—

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
908	1596	1917	1872	2523	1791	1930	2421	2019	1718

The average daily attendance during 1929 was 28. In 1928 it was 48.

The reduction of the number of children seen at the Clinic is due to the altered arrangements for the supervision of children receiving cod liver oil and malt. Until the Autumn they were all seen at the Central Clinic in Parkside, but owing to the risks from traffic and the disturbance of school work, it was arranged to have them inspected at several convenient schools. During the last term of the year 714 children were seen at those centres.

*Eye Clinic.*—The number of children who attended for refraction was 76. The conditions were :—Astigmatic hypermetropia 39, astigmatic myopia 11, simple myopia 16, simple hypermetropia 3, and mixed eyes 7.

59 of these children were found at routine inspections in schools, or a proportion of 1 with defective vision out of every 41 whose sight was tested at routine inspection.

All the 1928 cases who had not received their spectacles by the end of the year, received their spectacles in 1929. All the 1929 cases had received their spectacles by the end of the year with the exception of 6, who have not finished payments.

## INFECTIOUS DISEASES AMONG ELEMENTARY SCHOOL CHILDREN.

The following table shows the notifications of Infectious Disease among the elementary school children received each year since 1921 :—

		1921	1922	1923	1924	1925	1926	1927	1928	1929
Scarlet Fever	...	41	23	45	64	30	51	92	127	56
Diphtheria	...	19	43	48	28	24	66	51	79	162
Influenza	...	13	1	4	3	7	3	17	—	1
Measles	...	53	258	322	473	677	303	113	726	316
German Measles	...	26	1	1	8	5	607	10	24	4
Whooping Cough	...	142	297	42	15	283	101	246	46	126
Chicken Pox	...	122	55	54	260	332	259	297	121	195
Mumps	...	1593	14	4	91	141	720	195	21	20
Ringworm	...	23	10	4	15	10	7	3	8	2
Scabies	...	4	2	—	—	—	1	1	—	1
Skin Diseases	...	19	10	2	1	4	14	15	16	7
Others	...	172	77	64	122	63	121	63	78	102
Totals	...	2227	791	590	1080	1576	2253	1103	1246	992

56 school children had Scarlet Fever out of a total in the Borough of 98 cases at all ages.

162 school children had Diphtheria out of a total of 240 cases at all ages. The schools affected by these two diseases are shown in the following table :—

				Diphtheria.	Scarlet	Total
				No. of	Fever.	No. of
				Cases.	No. of	Cases.
Name of School.				Cases.	Cases.	Cases.
Abbey Mixed	...	...	...	—	—	0
„ Infants	...	...	...	—	1	1
Brunswick Boys	...	...	...	4	—	4
„ Girls	...	...	...	8	4	12
„ Infants	...	...	...	9	3	12
Central Boys	...	...	...	2	—	2
„ Girls	...	...	...	6	1	7
East Road Boys	...	...	...	2	1	3
„ Girls	...	...	...	2	—	2
„ Infants	...	...	...	4	2	6
King Street	...	...	...	1	—	1
Milton Road Mixed	...	...	...	10	5	15
„ Infants	...	...	...	2	5	7
Morley Memorial Mixed	...	...	...	—	—	0
„ Infants	...	...	...	1	—	1
Newnham Croft	...	...	...	—	—	0
Carried forward	...	...	...	51	22	73

			Diphtheria.	Scarlet	Total
			No. of	Fever.	No. of
			Cases.	No. of	Cases.
			Cases.	Cases.	Cases.
Brought forward ...	...	...	51	22	73
New Street Mixed ...	...	...	5	—	5
„ Infants ...	...	...	1	1	2
Park Street ...	...	...	11	—	11
Richmond Road ...	...	...	1	2	3
Romsey ...	...	...	18	2	20
St. Andrew's Mixed ...	...	...	1	1	2
„ Infants ...	...	...	2	3	5
St. Barnabas ...	...	...	5	3	8
St. Giles' Mixed ...	...	...	2	—	2
„ Infants ...	...	...	3	—	3
St. Luke's Boys ...	...	...	12	4	16
„ Girls ...	...	...	15	—	15
„ Infants ...	...	...	2	—	2
St. Matthew's Boys ...	...	...	8	1	9
„ Girls ...	...	...	6	6	12
„ Infants ...	...	...	4	2	6
St. Paul's Mixed ...	...	...	1	—	1
„ Infants ...	...	...	2	—	2
St. Philip's Boys ...	...	...	2	—	2
„ Girls ...	...	...	3	2	5
„ Infants ...	...	...	2	6	8
Union Road R.C....	...	...	3	—	3
Open Air ...	...	...	2	1	3
			162	56	218

It will be seen from the above table that Abbey Mixed, Morley Memorial Mixed, and Newnham Croft were entirely free from Diphtheria and Scarlet Fever during the year.

*Deaths of Elementary School Children.*—The total number of deaths in Cambridge of children 5—14 years of age during 1929 was 18.

These were as follows :—

Diphtheria ...	...	...	...	8
Pulmonary tuberculosis ...	...	...	...	2
Tuberculous meningitis ...	...	...	...	1
Rheumatic fever ...	...	...	...	1
Infantile paralysis ...	...	...	...	1
Meningitis ...	...	...	...	1
Bronchitis ...	...	...	...	1
Staphylococcal arthritis of hip ...	...	...	...	1
Haemorrhage following tonsillectomy ...	...	...	...	1
Accidental drowning ...	...	...	...	1
Total ...	...	...	...	18



*School Closure.*—Ten departments had attendances below 60 per cent., and for these certificates were given in accordance with Circular 1337 of the Board of Education. There was no closure of any school or department on account of infectious disease during the year.

#### TREATMENT OF DEFECTS.

*Treatment of Defects.*—The total number of children with minor ailments requiring treatment is 436, being 205 less than the previous year. In addition treatment was given to 118 for defective vision, 34 for diseases of the throat and nose, 3,573 for dental disease, and 605 for uncleanness, making a total of 4,766 cases treated in 1929, as compared with 5,256 in 1928.

1. *At Addenbrooke's Hospital.*—The X-ray treatment of ringworm of the scalp, the removal of tonsils and adenoids, the treatment of otorrhoea, and of a variety of other conditions, *e.g.*, curvature of the spine, chorea, disease of the eyes, etc., are all undertaken for the Education Committee at the Hospital. The Committee make an annual subscription to the Hospital of 50 guineas, and receive two hundred letters of recommendation for the use of school children.

In 1929 the number of letters of recommendation given for hospital treatment was 179, being 81 less than 1928.

The conditions for which treatment was required were (the figures for 1928 being in brackets): disease of the ears 24 (29), eyes 31 (40), ringworm 1 (6), tonsils and adenoids 23 (54), skin disease 18 (17), minor injuries 35 (46), chorea 1 (3), various other conditions 58 (68), making a total of 191 defects in 179 children.

The Cambridge Branch of the Red Cross Society have prepared a scheme for orthopaedic treatment and massage, and patients are sent to the Clinic which has been established at Addenbrooke's Hospital. A trained Orthopaedic Sister has been appointed by the Society, who attends at the Clinic, and follows up the children in their homes. The children treated at the Hospital are thus constantly under the observation of a trained nurse, and at the same time the Nurse is able to see that the patient is taken back to the Clinic for periodical inspection by the Surgeon.

The full scheme of orthopaedic care ensures :—

1. The early ascertainment of potential cripples.
2. Early treatment by remediable exercises or other methods so as to avoid the development of conditions needing operative treatment or permanent crippling.
3. Constant skilled care and after-care.

It is the intention of the Borough Education Committee to avail itself of the services thus provided.

2. *Treatment at the School Clinic.*—There has been a decrease in the number of children requiring treatment at the Clinic, from 516 in 1928 to 327 in 1929. The attendances also are less, having decreased from 4,021 in 1928 to 2,322 in 1929.

The number of children who attended the Clinic for examination of their eyesight was 76. Of these 8 were found not to require spectacles; 68 were prescribed for at the Clinic, and by the end of the year spectacles had been obtained by all but 6 children, who were prescribed for near the close of the year, and have not yet finished paying for them.

#### WORK OF THE SCHOOL NURSES.

As a rule the whole forenoon is taken up by work at the clinic; only occasionally have the Nurses time for home visiting in the forenoon. The afternoons of the two Nurses are taken up alternately in assisting at the routine medical inspections, and in paying visits to homes or to schools. The home visits are concerned with the "following-up" of defects found during routine inspections, and enquiring into the illnesses of children reported to be absent on medical grounds, while their afternoon visits to schools are concerned chiefly with inspections for cleanliness. These latter inspections are frequently interrupted during outbreaks of infectious diseases, but as far as possible an endeavour is made to inspect the children for cleanliness twice each term.

During the last term of the year much of the time of one nurse has been taken up assisting with Slick Testing and Immunisation at the Clinic.

The total number of visits made to schools in the year was 563, of which 130 were in connection with the routine medical inspections, 274 for the cleanliness survey, 70 in connection with infectious diseases, and the remainder for various other purposes.

The "home" visits numbered 1,587 in the year; 743 for the purpose of following-up cases of defects found at routine inspections, 705 in connection with infectious disease, and 139 visits of enquiry as to the cause of absence of children notified as ill by Head Teachers and School Attendance Officers.

The figures in 1928 were:—Total home visits 1,603, following-up 1,095, infectious diseases 378, absentees 130.

## OPEN AIR SCHOOL.

*Delicate and Physically Defective Children.*—The number on the register of the Open Air School in Milton Road at the beginning of the year was 77. During the year 37 children left and 78 were admitted, the figures for 1928 being 30 left and 67 admitted. Of the 37 children who left school during the year, 23 returned to their ordinary schools (including 3 whose Parents refused to pay the amount assessed for meals), 3 were sent to a Sanatorium, 5 left the town, 2 had reached school leaving age, 1 was sent to a Residential School, and 3 were transferred to the Observation Class.

*Observation Class.*—The children from the Hope Class in Paradise Street were transferred to the Open Air School. The number in this class at the beginning of 1929 was 32. Eleven left and 28 were admitted, leaving 49 children in attendance at the end of 1929. Of the 11 who left, 5 had reached the age of 14, 3 returned to ordinary school, 1 was notified to the Local Control Authority, 1 went to a special Residential School, and 1 Parent refused to send his child when the Class was transferred to Milton Road.

*Supervision by the Tuberculosis Officer.*—The total number of reports upon children received from the Tuberculosis Officer during the year was 106. These related to 80 children. Twenty-three were definitely excluded from attendance at any school for varying periods, and 44 were recommended for the Open Air School. Five were recommended for sanatorium treatment.

*Tuberculosis in School Children.*—The number of children of school age notified to be suffering from tuberculosis each year from 1925 is shown in the following statement :—

NOTIFICATIONS RECEIVED AT AGES 5-14 YEARS DURING THE  
YEARS 1925 TO 1929.

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.	
	Boys.	Girls.	Boys.	Girls.
1925 ...	15	13	9	5
1926 ...	10	6	6	8
1927 ...	25	13	10	6
1928 ...	9	9	3	1
1929 ...	6	6	3	6



*Voluntary Agencies.*—Every year a number of delicate children are sent for a change of air to the seaside by members of the Invalid Children's Aid and Preventive Aid Societies. 31 were sent away during 1929, and all had been examined and passed as suitable by the Assistant School Medical Officer.

Other voluntary associations which carry on work among school children, and which give most valuable help, include the Care Committee, the Central Aid Society, and the Voluntary Association for Mental Welfare. The work which they do has been mentioned in previous Annual Reports, to which reference may be made.

The Inspector of the National Society for the Prevention of Cruelty to Children gave assistance in 22 cases during the year.

*Provision of Meals.*—The dining centre at Eden Street was closed down finally on March 20th, and those children who were in need of better nourishment were transferred to the Open Air School in Milton Road.

*Malt and Oil, etc.*—During the year 46 new children have been receiving, on the recommendation of Dr. Gurney, cod-liver oil and malt at school.

A very large number of children also receive either malt and oil or milk at school by request of their parents. The total receiving malt and oil during 1929 was 1,480, for which 1,121 paid; and the total having milk at school was 158, for which all paid. 34 children also had virol, for which 31 paid.

All these children medically recommended are seen by Dr. Gurney once a month, their condition noted and weights recorded.

*Institutional Care.*—The number of defective children maintained in Institutions by the Education Committee during 1929 was: 2 blind, 8 deaf and dumb, 7 mentally defective, 1 epileptic and 2 crippled.

#### EMPLOYMENT OF SCHOOL CHILDREN.

Bye-Laws for regulating the employment of children and young persons under the Employment of Children Act, 1903, and the Education Act, 1918, came into operation in June, 1922. Under these, all children between 12 and 14 about to be employed must first undergo an examination by the School Medical Officer as to their fitness for employment and a certificate signed by the School Medical Officer must have been obtained by the employer within 14 days of beginning employment.



The number examined and certified during 1929 was 73. In addition 2 children were examined for entertainment licences during the year.

Street trading by young persons between 14 and 16 is also regulated by the same Bye-Laws. Girls under 16 and boys under 15 are prohibited from trading in the street, and trading by boys between 15 and 16 is subject to a license being obtained from the Local Education Authority. The only grounds upon which a license can be refused are :—

- (a) That the applicant is by reason of physical or mental deficiency unfit to trade in the streets.
- (b) That the applicant has not his parent's or guardian's consent to his being so employed.
- (c) That his license has been previously revoked.
- (d) That he is not regularly attending a continuation class, as and when required by law.

There were no applications for medical certificates for street trading during the year 1929.

#### THE TEACHING OF HYGIENE IN SCHOOLS.

In every school teaching in Hygiene is given in varying degree, mainly as a subject by itself, or at times in connection with science instruction. It is based almost invariably upon the Handbook of Suggestions on Health Education of the Board of Education, supplemented in several instances by other books upon the subject.

The instruction given to Infants is of a practical character, consisting mainly of personal hygiene; while for older children more theoretical treatment of the subject is given. In addition, talks upon the care of the teeth are given by the Dentists, and in several schools the seniors pay visits to premises such as a working dairy, a model bakery, gas works, and, in the case of girls, an infant welfare centre.

Physical training also receives a considerable amount of attention and includes organised games.

#### EVENING PLAY CENTRES.

Since 1919 two evening play centres (one at New Street School and one at the Abbey School) have been run by a Committee of the Cambridge Branch of the National Council of Women. There is a paid staff of five persons at New Street and three at the Abbey, the necessary funds being raised partly by subscription and partly from a Board of Education grant.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

## A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections.

Entrants ...	...	...	...	683
Intermediates	...	...	...	842
Leavers ...	...	...	...	590
Total				<u>2115</u>
Number of other Routine Inspections	...	...	...	Nil.

## B. OTHER INSPECTIONS.

Number of Special Inspections	...	...	1154
Number of Re-Inspections	...	...	<u>1412</u>
Total			<u>2566</u>

TABLE II.—A. Return of Defects found by Medical Inspection in the year ended December 31st, 1929.

Defect or Disease.						Routine Inspections.		Special Inspections.	
						No. of Defects		No. of Defects	
						Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
Malnutrition ... ..						—	2	2	—
Uncleanliness (see Table IV., Group V.) :						—	—	605	—
Skin	Ringworm :								
	Scalp ... ..					—	—	1	—
	Body ... ..					—	—	1	—
	Scabies ... ..					—	—	1	—
	Impetigo ... ..					—	—	31	—
Eye	Other Diseases (Non-Tuberculous)					—	—	155	—
	Blepharitis ... ..					1	—	5	—
	Conjunctivitis ... ..					2	—	32	—
	Keratitis ... ..					—	—	—	—
	Corneal Opacities... ..					—	1	—	—
	Defective Vision (excluding Squint) ...					59	23	76	—
	Squint ... ..					2	3	3	—
Ear	Other Conditions ... ..					3	—	26	—
	Defective Hearing ... ..					15	30	9	4
	Otitis Media ... ..					4	—	2	2
	Other Ear Diseases ... ..					1	—	2	—
Nose and Throat	Enlarged Tonsils only ... ..					10	104	15	4
	Adenoids only ... ..					2	11	5	1
	Enlarged Tonsils and Adenoids ...					5	10	5	—
	Other Conditions ... ..					—	8	10	—
Enlarged Cervical Glands (Non-Tuberculous)						—	—	11	—
Defective Speech... ..						—	1	—	2
Teeth Dental Diseases (s e Table IV., Group IV.) ... ..									
Heart and Circula- tion	Heart Disease :								
	Organic... ..					—	—	1	—
	Functional ... ..					—	19	1	2
Lungs	Anaemia ... ..					15	5	15	1
	Bronchitis... ..					—	—	2	—
	Other Non-Tuberculous Diseases					—	2	4	—

TABLE II.—(continued.)

Defect or Disease.					Routine Inspections.		Special Inspections.	
					No. of Defects		No. of Defects	
					Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
Tuber- culosis	Pulmonary :							
	Definite...	...	...	...	—	1	3	—
	Suspected	...	...	...	—	4	1	—
	Non-Pulmonary :							
	Glands	...	...	...	—	1	2	—
	Spine	...	...	...	—	—	1	—
	Hip	...	...	...	—	—	1	—
	Other Bones and Joints				...	—	—	—
	Skin	...	...	...	—	—	—	—
Nervous System	Other Forms	...	...	...	—	—	—	—
	Epilepsy	...	...	...	—	1	—	—
	Chorea	...	...	...	3	1	8	—
Deform- ities	Other Conditions...	...	...	...	16	6	10	—
	Rickets	...	...	...	—	2	1	—
	Spinal Curvature	...	...	...	17	4	2	—
Other Defects and Diseases					2	—	3	—
					19	22	323	4

B. Number of Individual Children found at Routine Medical Inspection to require Treatment (excluding Uncleanliness and Dental Diseases).

Group.					Number of Children.		Percentage of Children found to require Treatment
					Inspected	Found to require Treatment.	
Code Groups :							
Entrants	...	...	...	...	683	37	5.4
Intermediates	...	...	...	...	842	77	9.2
Leavers	...	...	...	...	590	41	6.9
Total (Code Groups)					2115	155	7.3
Other Routine Inspections					Nil	Nil	Nil



TABLE III. Return of all Exceptional Children in the Area.

			Boys.	Girls.	Total.
Blind (including partially blind).	(i.) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind ...	1	1	2
		Attending Public Elementary Schools ... ..	—	—	—
		At other Institutions...	—	—	—
		At no School or Institution ...	—	—	—
	(ii.) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind ...	—	—	—
		Attending Public Elementary Schools ... ..	—	—	—
		At other Institutions...	—	—	—
		At no School or Institution ...	—	—	—
Deaf (including deaf and dumb & partially deaf).	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf ...	4	3	7
		Attending Public Elementary Schools ... ..	1	—	1
		At other Institutions...	—	—	—
		At no School or Institution ...	—	—	—
	(ii.) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf ...	—	—	—
		Attending Public Elementary Schools ... ..	—	1	1
		At other Institutions...	—	—	—
		At no School or Institution ...	—	—	—
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority.)	Attending Certified Schools for Mentally Defective Children ... ..	1	3	4
		Attending Public Elementary Schools ... ..	53	19	72
		At other Institutions...	—	—	—
		At no School or Institution ...	—	—	—
	Notified to the Local Control authority <i>during the year.</i>	Feebleminded... ..	—	3	3
		Imbeciles ... ..	—	1	1
		Idiots ... ..	—	—	—
			—	—	—
Epileptics.	Suffering from severe epilepsy.	Attending Certified Special Schools for Epileptics ...	—	—	—
		In Institutions other than Certified Special Schools ...	—	—	—
		Attending Public Elementary Schools ... ..	1	1	2
		At no School or Institution ...	—	1	1

TABLE III.—(continued).

			Boys.	Girls.	Total.
Epileptics (continued.)	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools ... ..	8	—	8
		At no School or Institution ...	—	—	—
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board ... ..	3	4	7
		At other Institutions... ..	—	—	—
		At no School or Institution ...	3	—	3
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board ... ..	—	—	—
		At Certified Residential Open Air Schools ... ..	—	—	—
		At Certified Day Open Air Schools ... ..	4	4	8
		At Public Elementary Schools	12	11	23
		At other Institutions... ..	—	—	—
		At no School or Institution ...	5	2	7
	Delicate children (e.g., pre-or latent tuberculosis, malnutrition, debility, anaemia, etc.).	At Certified Residential Open Air Schools ... ..	—	—	—
		At Certified Day Open Air Schools ... ..	54	52	106
		At Public Elementary Schools	183	220	403
		At other Institutions... ..	—	—	—
	Active non-pulmonary tuberculosis.	At no School or Institution ...	—	—	—
		At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board ... ..	—	—	—
		At Public Elementary Schools	—	2	2
		At other Institutions... ..	—	—	—
	Crippled Children (other than those with active tuberculous disease), e.g., children suffering from paralysis, etc., and including those with severe heart disease.	At no School or Institution ...	—	—	—
		At Certified Hospital Schools	—	—	—
		At Certified Residential Cripple Schools ... ..	—	3	3
		At Certified Day Cripple Schools ... ..	—	—	—
		At Public Elementary Schools	21	15	36
		At other Institutions... ..	2	2	4
		At no School or Institution ...	—	—	—

TABLE IV. Return of Defects Treated during the year ended 31st December, 1929.

## TREATMENT TABLE.

Group I. Minor Ailments (excluding Uncleanliness, for which see Group V.)

Disease or Defect.	No. of Defects treated or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise	Total.
Skin			
Ringworm—Scalp ... ..	1	—	1
„ Body ... ..	—	1	1
Scabies ... ..	—	—	—
Impetigo ... ..	46	10	56
Other Skin Disease ... ..	78	14	92
Minor Eye Defects ... .. (External and other, but excluding cases falling in Group II.)	40	2	42
Minor Ear Defects ... ..	—	2	2
Miscellaneous ... .. (e.g., minor injuries, bruises, sores, chilblains, etc.)	216	24	240
Total ... ..	381	53	434

Group II. Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.	No. of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to re-fraction by private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including squint) ...	76	41	1	118
Other Defect or Disease of the Eyes (excluding those recorded in Group I.) ... ..	—	—	—	—
Total ... ..	76	41	1	118

Total number of children for whom spectacles were prescribed

(a) Under the Authority's Scheme ... 68

(b) Otherwise ... 35

Total number of children who obtained or received spectacles

(a) Under the Authority's Scheme ... 62

(b) Otherwise ... 35

Group III. Treatment of Defects of Nose and Throat.  
Number of Defects.

Received Operative Treatment.			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
33	1	34	7	41

Group IV. Dental Defects.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

Aged :

Routine Age Groups	5	604	Total	5301
	6	466		
	7	561		
	8	670		
	9	688		
	10	435		
	11	527		
	12	464		
Specials ...	13	547		
	14	339		

Specials ... 897

Grand Total ... 6198

(b) Found to require treatment 4303

(c) Actually treated ... 3573

(d) Re-Treated during the year as the result of periodical examination ... 1938

(2) Half-days devoted to :—

Inspection ... 29  
Treatment ... 508  
Administration 88 } Total 625

(3) Attendances made by Children for treatment ... 4386

(4) Fillings :—  
Permanent Teeth 4164  
Temporary Teeth 4964 } Total 9428

(5) Extractions :—  
Permanent Teeth 207  
Temporary Teeth 207 } Total 2274

(6) Administrations of general anaesthetics for extractions ... 63

(7) Other operations :—  
Permanent Teeth 111  
Temporary Teeth 543 } Total 654

Group V. Uncleanliness and Verminous Conditions.

- (i) Average number of visits per school made during the year by the School Nurses ... 9
- (ii) Total number of Examinations of children in the Schools by School Nurses ... 14,392
- (iii) Number of individual children found unclean ... 605
- (iv) Number of children cleansed under arrangements made by the Local Education Authority ... Nil
- (v) Number of cases in which legal proceedings were taken :  
(a) Under the Education Act, 1921 ... Nil  
(b) Under School Attendance Bye-Laws ... 12



REPORT  
ON  
DENTAL INSPECTION  
AND  
TREATMENT OF SCHOOL CHILDREN  
FOR THE YEAR 1929.

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BY  
W. BAIRD GRANDISON, L.D.S., R.C.S., Edin.,  
PUBLIC DENTAL OFFICER.

THE DENTAL INSTITUTE,  
35 PARK SIDE,  
CAMBRIDGE.

*December 31st, 1929.*

*To the Chairman and Members of the Local Education Authority.*

LADIES AND GENTLEMEN,

I have the honour to submit the Twenty-second Annual Report on the working of the Dental Institute, covering a period from January 1st to December 31st, 1929, inclusive.

Dr. D. Barron Cruickshank, L.R.C.P. & S., L.D.S. (Edin.), was appointed to the vacancy as assistant public dental officer, created by the resignation of Mr. W. H. Foy, L.D.S. (Eng.), who accepted the post of senior dental officer to the Barking Urban District Council. Mr. Foy left on October 31st, 1929, and Dr. Cruickshank takes up his duties on January 7th next.

The absence of an assistant resulted in three schools in the Borough being exempted from annual routine dental inspection and treatment, but it is hoped that the children concerned will receive attention in the near future.

I am,

Ladies and Gentlemen,

Your obedient servant,

W. BAIRD GRANDISON.

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# Report on the Dental Inspection and Treatment of Elementary School Children

FOR THE YEAR 1929.

All the children attending the elementary schools in the Borough of Cambridge have the opportunity, once annually, of dental inspection, and, when necessary, of dental treatment. In the year under review (1929) 5301 children were inspected. Of this number 1895 children were found to have dentitions absolutely free from caries, 3406 required treatment and 2676 received treatment.

All inspections are conducted at the schools and the condition of the teeth duly noted on charts specially prepared for the purpose. There were 29 half-days devoted to inspection during the year 1929, the average number inspected at each session being 180 children, a very good average, due almost entirely to the assistance obtained by the members of the teaching profession.

The treatment of the children is conducted partly at the central clinic and partly at the schools by two whole-time dental officers, supported by three whole-time dental attendants. Treatment is specially directed towards the conservation of the permanent dentition, but, in addition, active conservative treatment of the temporary dentition is persevered with, and with, I venture to say, particularly gratifying results. 508 treatment sessions were held during the year 1929, and 88 sessions were devoted to work of an organising and administrative character, including the sessions occupied in the teaching of dental hygiene in the schools. Progress is maintained and the popularity of dental treatment of school children increases.

## CONDITION OF THE TEETH AT INSPECTION.

5301 elementary school children were inspected during the year 1929. Of this number, 874 children were new patients, that is, patients who had never been subjected to routine dental inspection before, in Cambridge, 628 children were sound previously, that is, patients who had been previously inspected, but the teeth were such that no treatment was required; the remainder, 3799 children had been inspected and had received treatment in previous years.



The condition of the teeth of 5301 children, divided into their respective age groups, follows :—

Age.	Number of Children Examined.	Number of Temporary Teeth			Number of Permanent Teeth		
		Sound.	Decayed Saveable	Decayed Un-saveable	Sound.	Decayed Saveable	Decayed Un-saveable
5 Years	604	8711	2087	224	429	41	—
6 „	466	5830	1415	376	1619	208	—
7 „	561	5431	851	402	3882	465	3
8 „	670	5123	670	388	6869	708	3
9 „	688	3762	413	326	8649	713	11
10 „	435	1784	131	171	6834	517	7
11 „	527	1430	35	122	10027	636	23
12 „	464	533	10	77	10203	698	53
13 „	547	301	6	40	12947	884	44
14 „	339	65	1	11	8580	674	19
Total ...	5301	32970	5619	2137	70039	5544	163

For every 100 elementary school children in Cambridge, therefore, there are 622 sound temporary teeth, 105 saveable temporary teeth, 40 unsaveable temporary teeth, 1321 sound permanent teeth, 104 saveable permanent teeth, and 3 unsaveable permanent teeth.

40 unsaveable temporary teeth and 3 unsaveable permanent teeth per 100 children is remarkably satisfactory.

#### CONDITION OF THE TEETH AFTER TREATMENT.

2676 elementary school children were treated during the year 1929, and the effect of treatment can best be appreciated by arranging a comparative table, giving the results of dental inspection, together with the rearrangement which naturally follows as a result of treatment.

	No. of Children Inspected.	Temporary Teeth.			Permanent Teeth.		
		Sound.	Decayed Saveable.	Decayed Un-saveable.	Sound.	Decayed Saveable.	Decayed Unsaveable
Condition of teeth at Inspection ...	5301	32970	5619	2137	70039	5544	163
Condition of teeth after Treatment...	5301	37858	731	755	74228	1355	48

This comparative table indicates that in the mouths of 5301 children there are, after treatment, only 2.5 per cent. of teeth which show any dental disease at all, and the percentage of decayed unsaveable teeth, including the teeth of the temporary dentition, amounts to .7 per cent., almost negligible.

### ROUTINE DENTAL WORK.

The nature and quantity of the work necessary to satisfactorily treat 2676 elementary school children is as follows :—

FILLINGS...	A.	Amalgam or Synthetic	...	...	3098	}	4845	
	B.	{ Amalgam (Lined) or Synthetic (Lined)	...	...	1591			
	C.	{ Amalgam or Synthetic With Root Canal Treatment	...	...	156			
	D.	{ Teeth treated with Silver Nitrate (Howe's Method).	...	...	...		4232	
EXTRACTIONS	E.	{ Temporary Teeth	...	...	...	1382	}	1497
		{ Permanent Teeth	...	...	...	115		
Total operations					...			<hr/> 11574

### CASUALS.

In addition to the work recorded above, work was performed on certain children who visited the dental institute without an appointment. The object of the visit was either to seek relief from pain, or to obtain the routine treatment found necessary at inspection, though unable to accept the treatment when offered, owing to illness, inconvenience and the like.

897 children visited the institute casually, and treatment was either complete or incomplete, being dependant upon the nature of the trouble which prompted the visit. Work done under this heading was as follows :

	A.	In Permanent Teeth ... ..	265
FILLINGS...	B.	In Temporary Teeth ... ..	52
	C.	Of Permanent Teeth ... ..	58
EXTRACTIONS	D.	Of Temporary Teeth ... ..	650
	E.	Teeth treated with Nitrate of Silver (Howe's Method) ... ..	1165
Total operations ... ..			<u>2190</u>

The number of children who, though dentally inspected, did not receive routine dental treatment by appointment was 730, being 21.4 per cent. of the number requiring treatment, and 13.7 per cent. of the total number inspected. To say that these 730 children refused treatment would be entirely misleading, inaccurate. The fact is, that a certain number could not accept their appointments, others quite rightly prefer the services of their own private dentist, and may have had all the necessary treatment carried out, while a few have the treatment postponed. Undoubtedly there is a proportion of children whose parents obstinately prevent their receiving benefits proved to be of infinite value, and though this is deplorable, it will continue, and, I am proud to report that, in Cambridge, the interest displayed by parents in health matters is such that the problem of refusal of dental treatment need not worry us. It is interesting to note, for example, that the number of children attending as "Casuals" exceeds by 167 the total number of children who did not receive routine dental treatment, and the work done in connection with casual cases was such that over 1400 teeth were preserved, 317 by actual filling, and the remainder by the repeated application of Howe's Ammonical Silver Nitrate and Formalin Solutions, while an additional 58 unsaveable permanent teeth were removed. One should recognise that even under the splendid control of the teaching profession, by whom appointments are made for dental treatment, appointments cannot always be accepted or acceptable, and we can reduce to a minimum those who, by their ignorance, apathy, or deliberate intention, harbour grievances which prejudice the future health of their children.

And now follow two tables which I have always considered to be of very special interest, indicating in the one case the percentage of caries-free children, temporary and permanent teeth combined, and in the other case the number and percentage of sound permanent teeth at inspection, the number and percentage of teeth made sound by artificial means (treatment), and the number and percentage of children whose permanent teeth remained unsaveable as a result of failure to accept the offer of their removal.

Age.	Number of Children Examined.	No Decay including Both Dentitions.		Remarks.
		Number of Children.	Percentage.	
5 Years ...	604	123	20.3%	A Children whose ages range from 9 years to 13 years show marked improvement in the condition of their teeth.
6 „ ...	466	88	18.8	
7 „ ...	561	109	19.4	
8 „ ...	670	189	28.2	
9 „ ...	688	255	37.0	B. Children of School leaving age show increased decay. A question of Metabolic change.
10 „ ...	435	192	44.1	
11 „ ...	527	281	53.3	
12 „ ...	464	226	48.7	
13 „ ...	547	263	48.0	C. Children with no decay present number 1865
14 „ ...	339	139	41.0	
Total ...	5301	1865	35.1	

Age.	Per- manent Teeth.	Number of Children whose Permanent Teeth were						Children with Saveable Permanent Teeth but were not Treated.	
		Sound.		Made Artifici- ally Sound.		Unsaveable.			
		Approx. %		Approx. %		Approx. %		Approx. %	
5 Years	129	107	83	12	9	—	—	10	8
6 „	351	226	64	88	25	—	—	37	10
7 „	540	316	58	163	30	1	—	60	11
8 „	670	350	52	250	37	1	—	69	10
9 „	688	352	51	249	36	3	—	84	12
10 „	435	227	52	156	36	—	—	52	12
11 „	527	306	58	164	31	6	1	51	9
12 „	464	254	55	138	30	11	2	61	13
13 „	547	280	51	194	35	13	2	60	11
14 „	339	179	52	130	40	3	—	27	8
Total	4690	2597	55	1544	33	38	1	511	11



From this table, it can be understood that 2597 children had no decay present in the permanent dentition. Again, 1544 children had any dental defects in the permanent dentition remedied. Thus, there are in Cambridge 4141 children with caries-free permanent teeth.

It is always interesting to note the percentages of children with no decay present (temporary and permanent dentition combined) and the percentage of children with sound permanent teeth before treatment. These percentages in 1929 are respectively 35.1 and 55.3. While the former percentage shows considerable improvement, no doubt due to active conservative treatment of the temporary dentition, a practice commenced in the year 1921 and continued thereafter, there is little or no change in the latter percentage. Even in the year 1920 this percentage was 51. In consideration of the fact that the Cambridge scheme has been established for 26 years, and that for 16 years every school child could receive annual routine dental inspection and treatment, it must be assumed that the utmost that can be accomplished by dental treatment alone has been done, and in order to increase this percentage further effort is necessary and in a manner outside the sphere of operative dental surgery.

Table to denote progress, resulting from periodic dental inspection and treatment of elementary school children :—

Cambridge. Year.	No. of Children Examined.	No. of Children with Permanent Teeth.	Percentage of Sound Permanent Teeth, before Treatment.	Percentage of Sound Temporary Teeth, after Treatment.	No. of Decayed Unsaveable Permanent Teeth.	Percentage with no decay, including both Dentitions.	Percentage of Decayed Temporary Teeth in the 5 Year Old Group.
1908	2828	2397	15 %	48.1%	1698	2.4%	—
1909	2843	2170	27.1%	50.1%	895	2.6%	43.7%
1912	4254	3779	29.0%	56.6%	848	7.9%	31.6%
1920	4566	4134	51.2%	67.0%	702	15.7%	22.1%
1928	6080	5319	56.0%	94.9%	289	34.2%	18.9%
*1929	5301	4690	55.3%	96.2%	163	35.1%	20.9%

\* Two months without the services of an assistant.

The figures here indicated show that though there is nothing of a particularly striking character, progress has been maintained, and it would be quite reasonable to suppose that had the full-time services of my assistant been available for the whole year, still further records would have resulted. As it is, one can derive considerable satisfaction from the fact that (1) the number of unsaveable permanent teeth continue to

decrease, and (2) the condition of the temporary teeth is improving rapidly, so that future irregularities of the permanent dentition should be considerably reduced, and consequently the permanent teeth should be less liable to caries. There is still, however, a great amount of uncleanliness present in the teeth of our school children, and so long as the children fail to realise the advantages of a clean mouth, so long will we dentists be engaged on work in excess of requirements. Would that the children could learn to confine the energies of the dentist to the enamel of teeth, that intensely hard, durable and highly polished substance which covers the crowns of all human teeth. It can be done, by cleaning the teeth thoroughly every night before going to bed with a toothbrush and water to which has been added a small quantity of common salt or bicarbonate of soda.

“ Clean teeth do not decay,”

and by paying periodic visits to the dentist every six months, to confine the dentist's energies to the enamel of teeth, is not only to exclude pain, but to permit of fillings being inserted, when required, of such a character that permanency is well nigh a guarantee. To await pain is already known to be foolish to the majority of our children and need not be discussed; but to await routine annual inspection, to forget to brush the teeth and keep the mouth thoroughly clean is almost equally futile, and in Cambridge at least quite unnecessary. Let our motto therefore be :

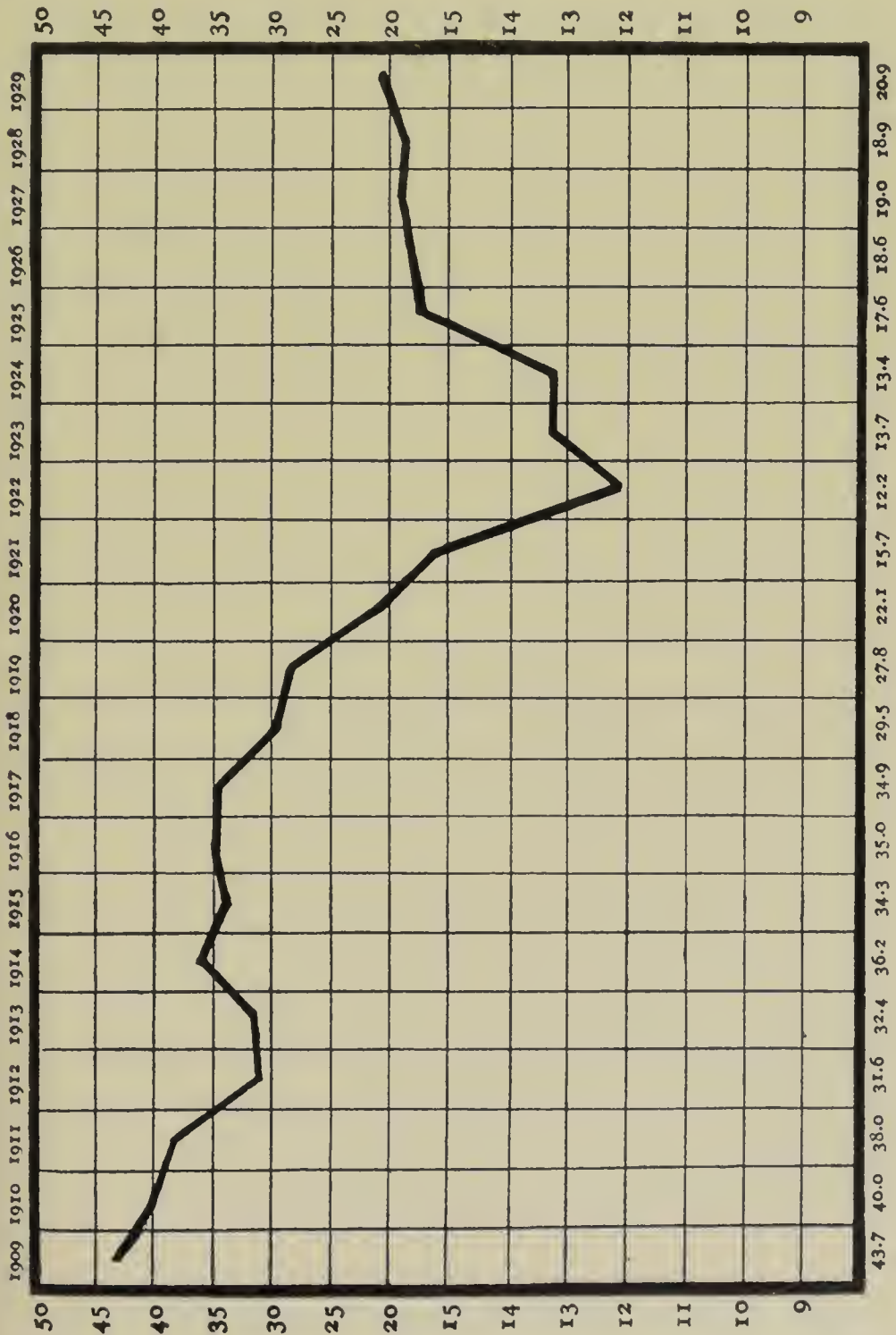
“ Complete control of dental disease.”

The unsaveable permanent teeth, which numbered 163 in the mouths of 5301 children at inspection, were distributed thus :—

85 children had 1 unsaveable permanent tooth each,							
22	„	„	2	„	„	teeth	„
3	„	„	3	„	„	„	„
5	„	„	4	„	„	„	„
1	„	„	5	„	„	„	„

116 children had 163 unsaveable permanent teeth.

Diagram.—Showing the percentage of decay in the temporary teeth of the five year old group of children from 1909 to 1929 (inclusive).



This very interesting graph indicating the percentage of decay present in the five year old group of children at inspection has produced many theories, but none more reliable than that connected with the problem of diet during and immediately following the war period. Whether by the blood circulation (internal metabolism), or by direct action on the enamel of teeth, it seems probable that the children who were five years old in 1922, and whose temporary teeth showed decay amounting to only 12.2 per cent. benefited to no small extent by the rationing process, scarcity of sugary foods, etc., and that this apparent benefit has been maintained can be appreciated by the fact that in the year 1929 the highest percentage of sound permanent teeth is to be found in the nine to twelve age groups. The return to a pre-war diet (probably even in an exaggerated form) is sufficient to account for the rise in the percentage of decayed temporary teeth in this five year group, and the probable reason of this increase remaining comparatively stationery, and at a fairly low level, is no doubt due to the dental treatment of the pre-school child, a practice begun in Cambridge in the year 1921 and which has become increasingly popular in each succeeding year.

#### THE DENTAL TREATMENT OF THE PRE-SCHOOL CHILD.

Children under five years of age receive treatment at the central treatment centre on Tuesdays after 3.30 p.m., on Thursdays from 2 p.m., and on Saturday mornings; and the number now attending at regular intervals is considerable.

The attendance of children under five years of age is obtained :

- (1) By recommendation from the various Maternity and Child Welfare Centres.
- (2) By recommendation of Parents.
- (3) By a request on the various appointment forms in use for the treatment of school children.

The treatment, needless to say, is remedial in character, and the popularity of this scheme is due, in particular, to two methods of treatment which are not only most efficacious and lasting, but extremely simple of application to children and dentist alike. I refer to the treatment of temporary teeth by the application of Howe's Ammonical Solution of Silver Nitrate and Formalin in the one case, and to the filling of fissures by Ames' Oxyphosphate of Copper Cement.

Howe's method of treating temporary teeth entails frequent visits, and I would wish to express my gratitude and appreciation to those parents who travel to the treatment centre frequently three times weekly, without complaint, and who are obviously interested in the progressive effect of this form of treatment.



## TEACHING OF DENTAL HYGIENE.

The apparent apathy, indifference derived from a lack of appreciation of the essentials to health, as evidenced by the refusal of dental treatment in the past, prompted me to establish a course of study in the schools in the year 1927, whereby children about to leave school could receive certain information which might protect them and future children from disease presumed to originate from carious teeth and unhealthy mouths.

This teaching was tried as an experiment in the first place, and the effect was such, that not only was this class recognised as part of the school curriculum, but extended to include as many "school leavers" as we (dentists) could deal with satisfactorily.

In the year 1929, 9 schools were visited, each, once a month, and the number of children receiving instruction was 470. Ten lectures of forty minutes was given to each school, and in July of each year an examination is held. Children who obtain a percentage of 65 receive a first-class certificate, and children who receive from 50 to 64 per cent. receive a second-class certificate. The certificates bear the names of the Chairman of the Hygiene Committee, the Secretary of Education, and the Public Dental Officer.

The course which is directed by the Dental Officers includes :—

- (1) The care of the mouth in Infancy.
  - (2) Temporary and permanent teeth, description, names, dates of eruption, etc.
  - (3) Tooth, derivation, construction, etc.
  - (4) First permanent molars. Special reference.
  - (5) Causes of dental disease.
  - (6) Progress of dental disease.
  - (7) Prevention of dental disease
  - (8) Control of dental disease
- Cleanliness, diet and internal metabolism.

## EXAMINATION IN ITEMS OF DENTAL INTEREST.

Time allowed 45 minutes.

## QUESTIONS.

Only two questions to be attempted.

- (1) What covers the crowns of human teeth? What steps would you suggest taking to preserve this substance?
- (2) To retain the Temporary teeth until the Permanent teeth are due to erupt is important. Why?
- (3) Name the four structures of the teeth. Which one is a soft structure and of what is it composed?
- (4) Give the approximate dates of the eruption of the following teeth :—

- (a) Temporary Canine.  
First Temporary Molar.  
First Premolar.  
Second Permanent Molar.  
Permanent Central Incisor.
- (b) What teeth replace the first and second temporary molars ?

#### RESULT OF THE EXAMINATION.

(1)	Number sitting	...	...	458
(2)	First-class Certificates	...	...	147
(3)	Second-class Certificates	...	...	88

Quite frankly I approached the problem of teaching young children somewhat perturbed, lest my efforts to teach should be such that school children would fail to understand the nature of the teaching, but I am delighted to report my surprise and profound admiration for the manner in which the children, not only attend, but appeared deeply interested; and, still better, can place on paper excellent answers to somewhat difficult questions. We dentists are so enthusiastic of the result of this teaching that we hope to continue our programme, and at the same time confidently recommend others to find time to carry on this interesting, and, I venture to say, profitable branch of public dental service.

The results so far achieved far exceed anything hitherto attempted, such, for example, as Talks to Parents at inspection, collectively or individually, lectures in connection with the showing of cinema films, Talks at Maternity and Child Welfare Centres, and by the distribution of literature.

#### ORTHODONTIA.

Orthodontia, or the regulating of children's teeth by apparatus, cannot be attempted on a large scale. Time and expense are alike prohibitive, but much can be done by a careful study of the mouth of the pre-school child by the retention of the temporary teeth until they are no longer required, and by the judicious extraction of one or more permanent teeth. One does not choose to disguise the fact that in Cambridge much irregularity persists, but the irregularity is such that serious facial deformity and functionless teeth are alike insignificant, and this probably resulting from the attention which is given to the temporary dentition. After all, the most serious deformity can and does result from a gross misplacement of the first permanent molars, and strenuous endeavours to retain these teeth in the correct position does much to obviate, later on, the necessity for costly apparatus and hours of labour.

## APPENDIX.

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### OTHER OPERATIONS, 1930.

Orthodontic Cases	...	...	...	...	29
Jaw Injury	...	...	...	...	1
Crowns (Resulting from injury to anterior teeth)	...	...	...	...	21

### CHILDREN.

Cleaning of Teeth (performed by Dental Attendants under supervision)	...	891
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